AMENDMENTS TO THE CLAIMS

The listing of claims provided below will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-87. (Canceled)

88. (New) A method of diagnosing infection in a human patient by, or exposure of a human patient to, a mycobacterium that expresses ESAT-6, which method comprises the steps of:

(i) contacting a population of T cells from the patient with a high sensitivity panel of eight peptides, in which each peptide has a sequence at least 90% identical to one of SEQ ID NOS: 1 to 8 or has an end terminal deletion of one of SEQ ID NOS: 1 to 8 such that each of SEQ ID NOS: 1 to 8 is represented in the panel, wherein each peptide in the panel retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a corresponding exact sequence of SEQ ID NOS: 1 to 8, and

(ii) determining *in vitro* whether T cells of the T cell population show a recognition response to the peptides by detecting IFN-γ secretion from the T cells.

89. (New) The method of claim 88, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence at least 90% identical to SEQ ID NO: 9 or having an end terminal deletion of SEQ ID NO: 9, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 9; a peptide having a sequence at least 90% identical to SEQ ID NO: 10 or having an end terminal deletion of SEQ ID NO: 10, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ

ID NO: 10; and a peptide having a sequence at least 90% identical to SEQ ID NO: 11 or having an end terminal deletion of SEQ ID NO: 11, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 11.

90. (New) The method of claim 88, wherein any of the peptides has a corresponding exact sequence of SEQ ID NOS: 1 to 8.

91. (New) The method of claim 88, wherein the panel of eight peptides consists of peptides in which each peptide has a sequence of one of SEQ ID NOS: 1 to 8.

92. (New) The method of claim 88, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.

93. (New) The method of claim 91, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.

94. (New) The method of claim 88, wherein the T cells are freshly isolated.

95. (New) The method of claim 88, wherein the T cells are isolated from prepheral blood.

96. (New) The method of claim 88, wherein the T cell population comprises CD4 and CD8 T cells.

97. (New) The method of claim 88, wherein presence of a mycobacterium that expresses ESAT-6 is determined in a suspected healthy contact who has been exposed to the mycobacterium.

98. (New) A kit for diagnosing infection in a human patient by, or exposure of a human patient to, a mycobacterium that expresses ESAT-6, comprising a high sensitivity panel of eight peptides, in which each peptide has a sequence at least 90% identical to one of SEQ ID NOS: 1 to 8 or has an end terminal deletion of one of SEQ ID NOS: 1 to 8 such that each of SEQ ID NOS: 1 to 8 is represented in the panel, wherein each peptide in the panel retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a corresponding exact sequence of SEQ ID NOS: 1 to 8.

99. (New) The kit of claim 98, wherein the panel is comprised in a single vial for simultaneous use.

100. (New) The kit of claim 99, further comprising an apparatus to detect recognition of the panel by a T cell population.

101. (New) The kit of claim 98, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence at least 90% identical to SEQ ID NO: 9 or having an end terminal deletion of SEQ ID NO: 9, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 9; a peptide having a sequence at least 90% identical to SEQ ID NO: 10 or having an end terminal deletion of SEQ ID NO: 10, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 10; and a peptide having a sequence at least 90% identical to SEQ ID NO: 11 or having an end terminal deletion of SEQ ID NO: 11, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 11.

102. (New) The kit of claim 98, wherein any of the peptides has a corresponding exact sequence of SEQ ID NOS: 1 to 8.

103. (New) The kit of claim 98, wherein the panel of eight peptides consists of peptides in which each peptide has a sequence of one of SEQ ID NOS: 1 to 8.

104. (New) The kit of claim 98, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.

105. (New) The kit of claim 103, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.

106. (New) A composition comprising a high sensitivity panel of eight peptides, in which each peptide has a sequence at least 90% identical to one of SEQ ID NOS: 1 to 8 or has an end terminal deletion of SEQ. ID. NO: 1 to 8 such that each of SEQ ID NOS: 1 to 8 is represented in the panel, wherein each peptide retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a corresponding exact sequence of SEQ ID NOS: 1 to 8.

107. (New) The composition of claim 106, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence at least 90% identical to SEQ ID NO: 9 or having an end terminal deletion of SEQ ID NO: 9, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO: 9; a peptide having a sequence at least 90% identical to SEQ ID NO: 10 or having an end terminal deletion of SEQ ID NO: 10, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of

SEQ ID NO: 10; and a peptide having a sequence at least 90% identical to SEQ ID NO: 11 or having an end terminal deletion of SEQ ID NO: 11, and which retains the ability to be recognized by T cells of a T cell population which recognize a peptide having a sequence of SEQ ID NO:. 11.

108. (New) The composition of claim 106, wherein any of the peptides has a corresponding exact sequence of SEQ ID NOS: 1 to 8.

109. (New) The composition of claim 106, wherein the panel of eight peptides consists of peptides in which each peptide has a sequence of SEQ ID NOS: 1 to 8.

110. (New) The composition of claim 106, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.

111. (New) The composition of claim 109, wherein the panel further comprises one or more peptides selected from the group consisting of a peptide having a sequence of SEQ ID NO: 9, a peptide having a sequence of SEQ ID NO: 10, and a peptide having a sequence of SEQ ID NO: 11.